Amendments to the Claims

1-12 (Cancelled)

13. (Currently Amended) A method for enhancing the activity of a human osteoclastogenesis inhibitory factor (OCIF) protein said method comprising administering an effective amount of said human OCIF protein to a subject in need thereof in conjunction with an activity enhancing amount of a polysaccharide selected from the group consisting of: hyaluronic acid, chondroitin sulfate, dermatan sulfate, heparan sulfate, keratan sulfate, carrageenan, pectin, heparin, dextran, dextran sulfate, and sulfated glucan;
wherein the activity of said human OCIF protein, administered with said polysaccharide, is enhanced relative to the activity of said human OCIF protein when administered in the absence of said polysaccharide.

14. (Currently Amended) The method of claim 13, wherein said method comprises administering an effective amount of said human OCIF protein to a subject in need thereof in conjunction with an activity enhancing amount of a polysaccharide selected from the group consisting of: hyaluronic acid, chondroitin sulfate, dermatan sulfate, heparan sulfate, keratan sulfate, carrageenan, pectin, heparin, dextran, dextran sulfate, and sulfated glucan, in the form of a medicinal composition comprising said human OCIF protein and said polysaccharide.

15-16 (Cancelled)

17. (Previously Presented) The method of claim 13, wherein said polysaccharide is selected from the group consisting of: heparin, pectin, carrageenan, and dextran sulfate.

18. (Previously Presented) The method of claim 13, wherein said polysaccharide is selected from the group consisting of: heparin having a molecular weight of 3,000 to 6,000, and dextran sulfate having a molecular weight of 5,000 to 10,000.

19. (Previously Presented) The method of claim 13, wherein the weight ratio of human OCIF protein to polysaccharide is at least about 1:4 OCIF : polysaccharide.

20. (Currently Amended) A method of treating a bone-pathobolism selected from the group consisting of osteoporosis, hypercalcemia and chronic articular rheumatism comprising administering to a subject in need thereof a composition comprising an amount of human osteoclastogenesis inhibitory factor (OCIF) protein and a polysaccharide, effective in combination for increasing bone density, selected from the group consisting of: hyaluronic acid, chondroitin sulfate, dermatan sulfate, heparan sulfate, keratan sulfate, carrageenan, pectin, heparin, dextran, dextran sulfate, and sulfated glucan, thereby increasing the subjects bone density.

21-22 (Cancelled)

23. (Previously Presented) The method of claim 20, wherein said polysaccharide is selected from the group consisting of: heparin, pectin, carrageenan, and dextran sulfate.

24. (Previously Presented) The method of claim 20, wherein said polysaccharide is selected from the group consisting of: heparin having a molecular weight of 3,000 to 6,000, and dextran sulfate having a molecular weight of 5,000 to 10,000.

25. (Previously Presented) The method of claim 20, wherein the weight ratio of human OCIF protein to polysaccharide in said composition is at least about 1:4 OCIF : polysaccharide.

26-32 (Cancelled)

33. (Currently Amended) A medicinal composition for treating a bone-pathobolism selected from the group consisting of osteoporosis, hypercalcemia and chronic articular rheumatism, said composition comprising: a human osteoclastogenesis inhibitory factor (OCIF) homolog selected from the group consisting of human OCIF2, human OCIF3, human OCIF4, and human OCIF5; and a polysaccharide selected from the group consisting of: hyaluronic acid, chondroitin sulfate, dermatan sulfate, heparan sulfate, keratan sulfate, carrageenan, pectin, heparin, dextran, dextran sulfate, and sulfated glucan.

34. (Currently Amended) A method for enhancing the activity of a human osteoclastogenesis inhibitory factor (OCIF) protein homolog selected from the group consisting of human OCIF2, human OCIF3, human OCIF4, and human OCIF5, said method comprising administering an effective amount of said human OCIF protein homolog to a subject in need thereof in conjunction with an activity enhancing amount of a polysaccharide selected from the group consisting of: hyaluronic acid, chondroitin sulfate, dermatan sulfate, heparan sulfate, keratan sulfate, carrageenan, pectin, heparin, dextran, dextran sulfate, and sulfated glucan;

wherein the activity of said human OCIF protein homolog administered with said polysaccharide is enhanced relative to the activity of said human OCIF protein homolog when administered in the absence of said polysaccharide.

35. (Currently Amended) A method of treating a ~~bone pathobolism~~ bone-pathobolism selected from the group consisting of osteoporosis, hypercalcemia and chronic articular rheumatism comprising administering to a subject in need thereof a composition comprising an amount of a human osteoclastogenesis inhibitory factor (OCIF) protein homolog and a polysaccharide, effective in combination for increasing bone density, wherein said OCIF protein homolog is selected from the group consisting of: human OCIF2, human OCIF3, human OCIF4, and human OCIF5; and wherein said polysaccharide is selected from the group consisting of: hyaluronic acid, chondroitin sulfate, dermatan sulfate, heparan sulfate, keratan sulfate, carrageenan, pectin, heparin, dextran, dextran sulfate, and sulfated glucan, thereby increasing the subjects bone density.

36-37 (Cancelled)

38. (Previously Presented) The method of claim 13, wherein said OCIF protein is lyophilized.

39. (Previously Presented) The method of claim 20, wherein said OCIF protein is lyophilized.

40. (Currently Amended) A method for lowering the serum calcium level in a subject in need thereof, comprising administering to said subject a composition comprising an amount of human osteoclastogenesis inhibitory factor (OCIF) protein and a polysaccharide, effective in combination for lowering the serum calcium level, wherein said polysaccharide is selected from the group consisting of: hyaluronic acid, chondroitin sulfate, dermatan sulfate, heparan sulfate, keratan sulfate, carrageenan, pectin, heparin, dextran, dextran sulfate, and sulfated glucan, thereby lowering the serum calcium level in said subject.

41. (Previously Presented) The method of claim 40, wherein said polysaccharide is selected from the group consisting of: heparin, pectin, carrageenan, and dextran sulfate.

42. (Previously Presented) The method of claim 40, wherein said polysaccharide is selected from the group consisting of: heparin having a molecular weight of 3,000 to 6,000, and dextran sulfate having a molecular weight of 5,000 to 10,000.

43. (Previously Presented) The method of claim 40, wherein the weight ratio of human OCIF protein to polysaccharide is at least about 1:4 OCIF : polysaccharide.

44. (Previously Presented) The method of claim 40, wherein said composition is a liquid composition.

45. (Previously Presented) The method of claim 40, wherein said composition is a lyophilized composition.

46. (Currently Amended) A method for prolonging the persistence of human osteoclastogenesis inhibitory factor (OCIF) protein in a subject in need of treatment with OCIF, said method comprising administering an effective amount of said human OCIF protein to said subject in conjunction with an amount of a polysaccharide effective for prolonging the persistence of OCIF in the serum of said subject, wherein said polysaccharide is selected from the group consisting of: hyaluronic acid, chondroitin sulfate, dermatan sulfate, heparan sulfate, keratan sulfate, carrageenan, pectin, heparin, dextran, dextran sulfate, and sulfated glucan;

wherein the persistence of said human OCIF protein, administered with said polysaccharide, in said subjects serum is prolonged relative to the persistence of said human OCIF protein when administered in the absence of said polysaccharide.

47. (Previously Presented) The method of claim 46, wherein said polysaccharide is selected from the group consisting of: heparin, pectin, carrageenan, and dextran sulfate.

48. (Previously Presented) The method of claim 46, wherein said polysaccharide is selected from the group consisting of: heparin having a molecular weight of 3,000 to 6,000, and dextran sulfate having a molecular weight of 5,000 to 10,000.

49. (Previously Presented) The method of claim 46, wherein the weight ratio of human OCIF protein to polysaccharide is at least about 1:4 OCIF : polysaccharide.

50. (Previously Presented) The method of claim 46, wherein said composition is a liquid composition.

51. (Previously Presented) The method of claim 46, wherein said composition is a lyophilized composition.

52. (Currently Amended) A lyophilized medicinal composition for treating a bone-pathobolism selected from the group consisting of osteoporosis, hypercalcemia and chronic articular rheumatism, said composition comprising a human osteoclastogenesis inhibitory factor (OCIF) protein homolog selected from the group consisting of human OCIF2, human OCIF3, human OCIF4, and human OCIF5, and a polysaccharide selected from the group consisting of : hyaluronic acid, chondroitin sulfate, dermatan sulfate, heparan sulfate, keratan sulfate, carrageenan, pectin, heparin, dextran, dextran sulfate, and sulfated glucan.

53. (Currently Amended) A method of preparing a lyophilized medicinal composition for treating a bone-pathobolism selected from the group consisting of osteoporosis, hypercalcemia and chronic articular rheumatism, said composition comprising a human osteoclastogenesis inhibitory factor (OCIF) protein homolog selected from the group consisting of human OCIF2, human OCIF3, human OCIF4, and human OCIF5, and a polysaccharide selected from the group consisting of : hyaluronic acid, chondroitin sulfate, dermatan sulfate, heparan sulfate, keratan sulfate, carrageenan, pectin, heparin, dextran, dextran sulfate, and sulfated glucan, said method comprising:

dissolving OCIF homolog and said polysaccharide in a solution; and

freeze-drying the solution comprising said OCIF homolog and said polysaccharide.

54. (Currently Amended) A method for lowering the serum calcium level in a subject in need thereof, comprising administering to said subject a composition comprising an amount of human osteoclastogenesis inhibitory factor (OCIF) protein homolog and a polysaccharide, effective in combination for lowering the serum calcium level in said subject, wherein said OCIF protein homolog is selected from the group consisting of human OCIF2, human OCIF3, human OCIF4, and human OCIF5, and said polysaccharide is selected from the group consisting of: hyaluronic acid, chondroitin sulfate, dermatan sulfate, heparan sulfate, keratan sulfate, carrageenan, pectin, heparin, dextran, dextran sulfate, and sulfated glucan, thereby lowering the subjects serum calcium level.

55. (Currently Amended) A method for prolonging the persistence of a human osteoclastogenesis inhibitory factor (OCIF) protein homolog selected from the group consisting of human OCIF2, human OCIF3, human OCIF4, and human OCIF5, in a subject in need of treatment with said OCIF homolog, said method comprising administering an effective amount of said human OCIF protein homolog to said subject in conjunction with an amount of a polysaccharide effective for prolonging the persistence of said OCIF homolog in the serum of said subject, wherein said polysaccharide is selected from the group consisting of: hyaluronic acid, chondroitin sulfate, dermatan sulfate, heparan sulfate, keratan sulfate, carrageenan, pectin, heparin, dextran, dextran sulfate, and sulfated glucan;

wherein the persistence of said human OCIF protein homolog, administered with said polysaccharide, in said subjects serum is prolonged relative to the persistence of said human OCIF protein homolog when administered in the absence of said polysaccharide.